

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of ~~providing synchronisation between~~ synchronizing a plurality of base stations (300) in a telecommunications system, ~~the telecommunications system comprising which includes~~ a plurality of cells (320), each of ~~the plurality of~~ which cells ~~having~~ has one of the plurality of base stations and at least one mobile station (310) situated therein, the method ~~comprises the steps of~~ comprising:

a) providing at least one channel comprising time slots, (210) for usage in the plurality of cells;

b) transmitting a ~~synchronisation~~ synchronization signal in a given one of the at least one channel, the transmission being from each of the plurality of base stations to ~~these remaining~~ base stations within transmission range of each respective base station; [[and]]

c) for each ~~respective~~ base station, calculating respective time differences ($d_{a,b}$, $d_{a,e}$) between corresponding time slots respective other base stations within transmission range of the ~~respective~~ base station; and [[.]]

d) adjusting timing of the synchronization signals of the respective base station according to calculated time differences;

wherein the at least one channel is a random access channel transmitted at a frequency within a band of frequencies that is provided for communications with mobile stations.

2. (Currently Amended) [[A]] The method according to Claim 1, ~~having the further steps of comprising:~~

[[d))] e) for each of the plurality of base stations, reporting the time differences calculated in step c) to a radio network controller;

[[e))] f) calculating a ~~synchro~~nising synchronizing adjustment corresponding to each base station from the reported time differences;

[[f))] g) informing each base station individually of the corresponding ~~synchro~~nising synchronizing adjustment calculated in step [[e)];] f); and

[[g))] h) ~~synchro~~nising synchronizing each base station according to the corresponding ~~synchro~~nising synchronizing adjustment.

3. (Currently Amended) [[A]] The method according to Claim 1, ~~having the further comprising step of:~~

[[h))] i) each respective base station acting autonomously on the time differences calculated in step c) by adjusting its ~~synchro~~nisation synchronization to ~~minimise~~ minimize the time differences.

4. (Cancelled)

5. (Currently Amended) [[A]] The method according to Claim [[4,]] 1, wherein the random access channel comprises a time slot per TDMA frame.

6. (Currently Amended) [[A]] The method according to Claim 5, wherein the random access channel is allocated to uplink transmissions in order to initiate communications.

7. (Currently Amended) [[A]] The method according to Claim 6, wherein communications are initiated by requesting a resource unit for uplink usage.

8. (Currently Amended) [[A]] The method according to Claim 5, ~~having the further comprising step of:~~

[[i)] j) allocating ~~the utilisation~~ utilization of each random access channel time slot for base station ~~synchronisation~~ synchronization according to a schedule.

9. (Currently Amended) ~~[[A]]~~ The method according to Claim 5,
~~having the further comprising step of:~~

~~[[j)]]~~ k) using a second channel ~~[[one]]~~ of said at least one ~~channels~~
channel to silence uplink communications in the random access channel time
slots to allow the transmission of ~~synchronisation~~ synchronization transmissions
from each respective base station to other base stations.

10. (Currently Amended) ~~[[A]]~~ The method according to Claim 9,
wherein the second channel is ~~[[the]]~~ a broadcast control channel.

11. (Currently Amended) ~~[[A]]~~ The method according to Claim ~~[[4,]]~~ 1,
wherein the random access channel time slot used is always contained in a fixed
numbered frame within a plurality of multi-frames in order to ~~synchronise~~
synchronize the plurality of base stations over multi-frames.

12. (Currently Amended) A method of locating a mobile station within
a telecommunications cell forming part of a telecommunications system wick
includes a base station and at least one mobile station, the method comprising
~~the steps of:~~

determining the location of at least three base stations;

scheduling ~~synchronisation~~ synchronization measurements for each of the
base stations ~~utilising~~ utilizing a random access channel;
transmitting a signal from the mobile station;
receiving the transmitted signal at each of the three base stations;
comparing the received signals with timing signals in each of the base
stations; and
using the comparison at each base station to determine the location of the
mobile station.